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TITLE NPIC

SEC. CLASS. LOCATION

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25132

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

*New section.

**Revised section.

TABLE OF CONTENTS (CONTINUED)

*New section.
**Revised section.

TABLE OF CONTENTS (CONTINUED)

June 1966

NOTICE

Attached are revised and additional sections for the TALENT/KEY-HOLE Supplement, Evaluation of Evidence on Soviet Guided Missile Production, a continuing report of the Production Working Group of the Guided Missile and Astronautics Intelligence Committee. This report was originally published as [redacted] subsequent revisions were published under the numbers [redacted] 25X1 25X1

Holders of this looseleaf report should insert revised and new sections alphabetically by city name, removing the outdated sections; the revised Table of Contents, in which the new and revised sections are highlighted by single and double asterisks, respectively, may be used for quick alphabetical reference.

Certain target names appearing in unrevised sections should be amended with pen and ink as outlined below.

Chapter	Section	Action To Be Taken
OMSK	0	wherever the name Rocket Test Facility occurs, add the word "Engine" to make read Rocket Engine Test Facility p 0-1 - facility name p 0-2 - annotation on map p 0-3 - annotation on photo
UFA	0	wherever the name Suspect Test Facility occurs, delete the qualifier "Suspect" and add the word "Static" to make read Static Test Facility p 0-1 - facility name p 0-2 - annotation on map p 0-3 - annotation on photo

Note: In accordance with the February 1966 recommendations of the USIB Committee on Documentation, the Russian name "Moskva" has been substituted for the conventional form "Moscow" in the revised and additional sections on that city.

LENINGRAD

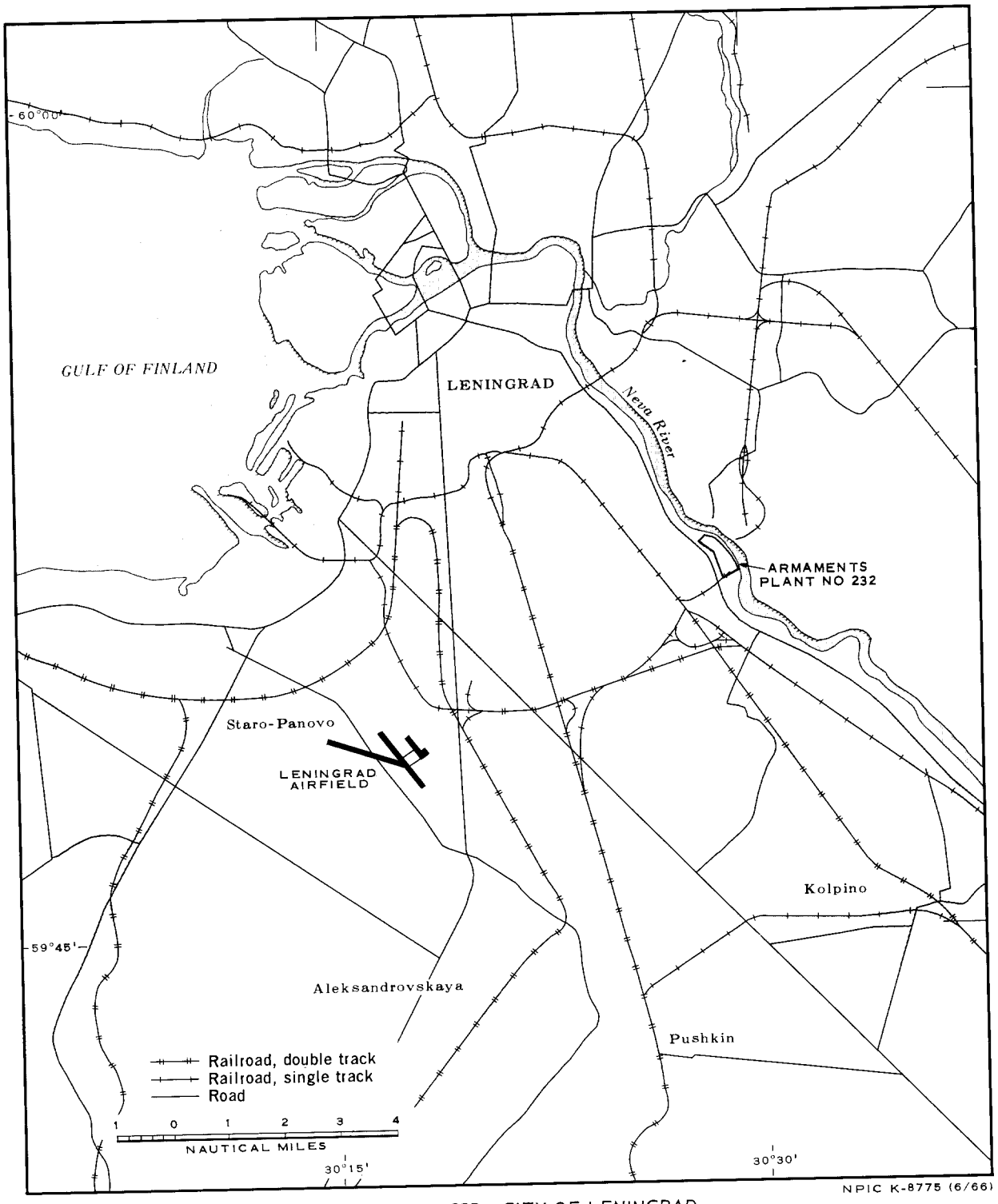


FIGURE 1. USSR: CITY OF LENINGRAD.

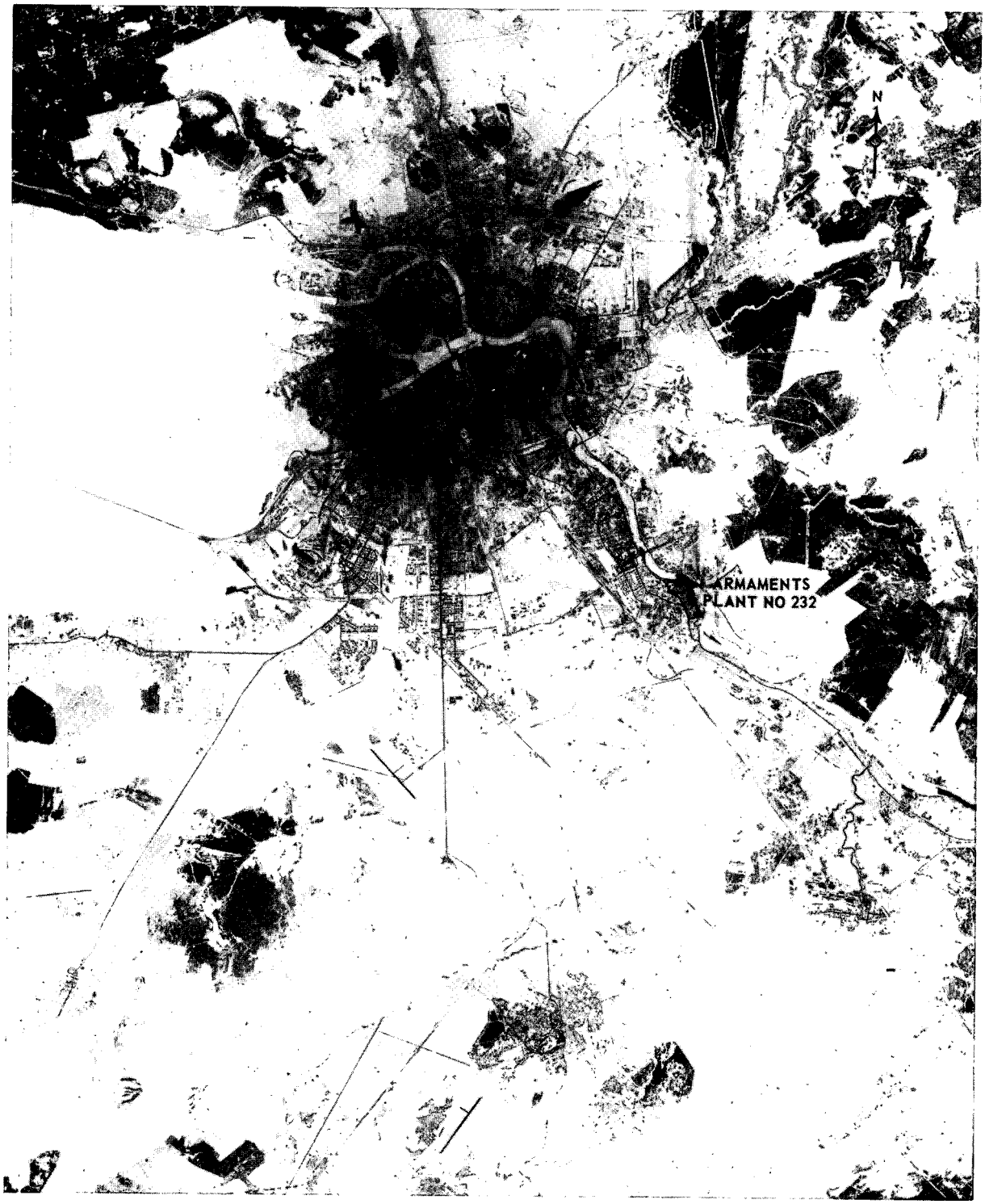


FIGURE 2. USSR: CITY OF LENINGRAD

PIC K-8776 (6/66)

25X1

LENINGRAD: ARMAMENTS PLANT NO 232

PHOTOGRAPHIC CHRONOLOGY

Leningrad Armaments Plant No 232 was observed on German photography of 1942, TALENT photography of 1956, and recent KEYHOLE photography. A comparison of these sources reveals that the only significant developments that have occurred at the plant since 1942 were those begun in 1961. A large monitor-roofed machine shop (item 14, Figures 2 and 3) was observed under construction in [redacted] 25X1
The building, which is approximately 65 feet high, has a corner tower 40 feet square. Photography of [redacted] 25X1 shows the tower to be approximately 185 feet high. A high-bay assembly and check-out building (item 15, Figures 2 and 3) was first observed under construction in [redacted] 25X1 It measures 830 by 185 feet, and the 2 bays are 130 and 90 feet high, respectively. An addition to a heat treatment building (item 11, Figure 2) was also observed on the [redacted] 25X1 coverage.

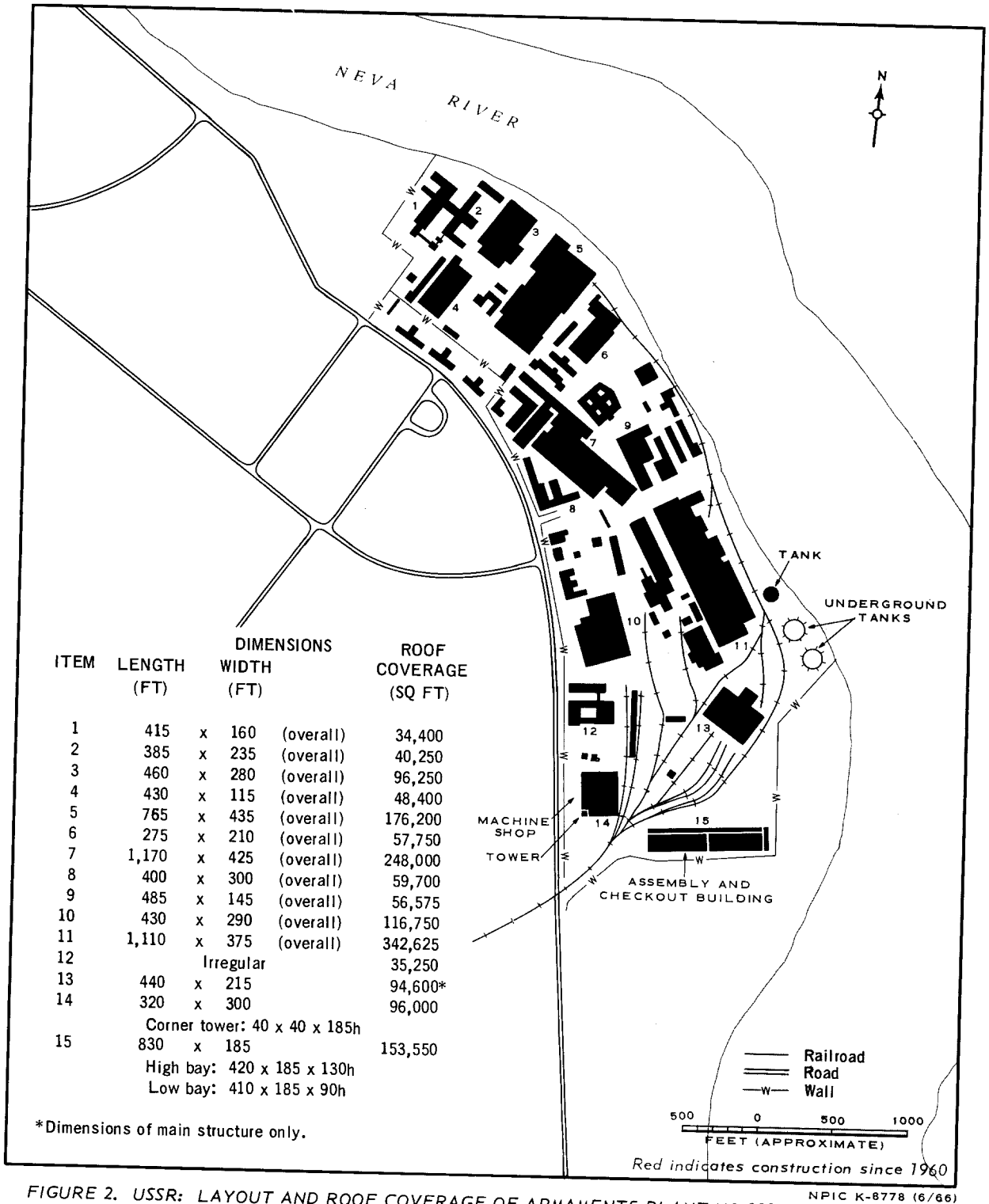
EVALUATION

Plant 232 was formerly associated with the Naval Artillery Directorate, which is believed to have developmental control of naval ballistic missiles. The nature of its previous activity, the presence of a test-type tower at the plant in 1962, and the completion of a major assembly-type building make the plant a prime candidate for producer of naval ballistic missiles. The plant is a possible producer of the SS-N-5, if that system is a liquid propellant system, and of the SS-N-4 missile now believed to be phased out of production.

NPIC K-8777 (6/66)

FIGURE 1. USSR: ARMAMENTS PLANT NO 232 AT LENINGRAD

25X1

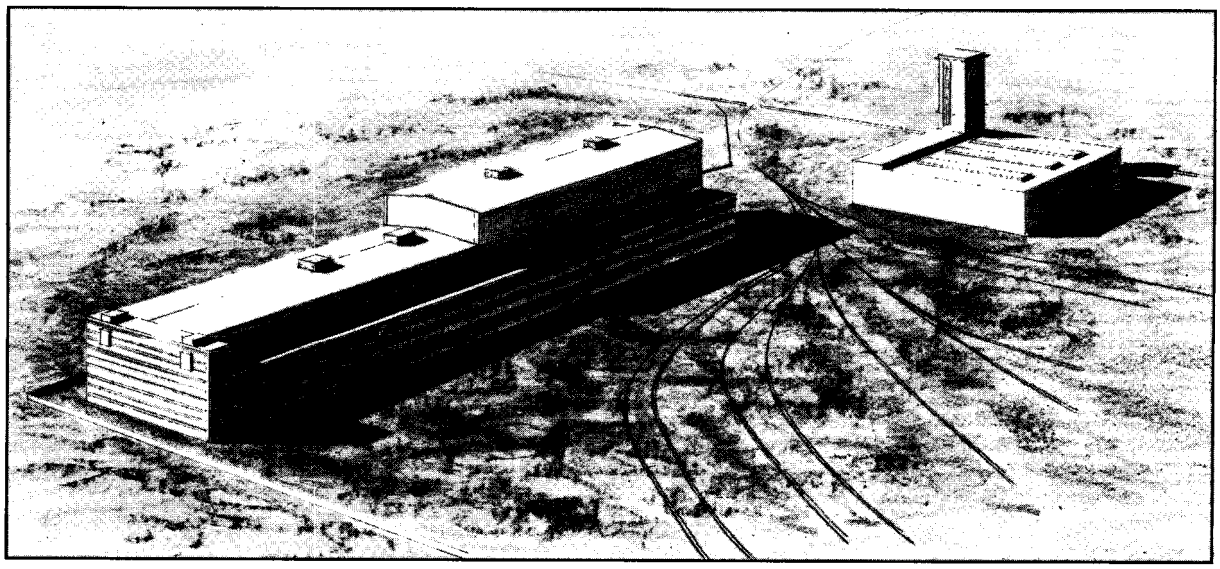


ITEM	LENGTH (FT)		DIMENSIONS WIDTH (FT)		ROOF COVERAGE (SQ FT)
1	415	x	160	(overall)	34,400
2	385	x	235	(overall)	40,250
3	460	x	280	(overall)	96,250
4	430	x	115	(overall)	48,400
5	765	x	435	(overall)	176,200
6	275	x	210	(overall)	57,750
7	1,170	x	425	(overall)	248,000
8	400	x	300	(overall)	59,700
9	485	x	145	(overall)	56,575
10	430	x	290	(overall)	116,750
11	1,110	x	375	(overall)	342,625
12	Irregular				35,250
13	440	x	215		94,600*
14	320	x	300		96,000
	Corner tower: 40 x 40 x 185h				
15	830	x	185		153,550
	High bay: 420 x 185 x 130h				
	Low bay: 410 x 185 x 90h				

*Dimensions of main structure only.

FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF ARMAMENTS PLANT NO 232 AT LENINGRAD.

Leningrad 1-3



NPIC K-8779 (6/66)

FIGURE 3. USSR: PERSPECTIVE VIEWS OF MACHINE SHOP AND ASSEMBLY AND CHECKOUT BUILDING (items 14 and 15, Figure 2), ARMAMENTS PLANT NO 232 AT LENINGRAD.

KUYBYSHEV: EXPERIMENTAL AIRCRAFT ENGINE PLANT KRASNAYA GLINKA NO 2

PHOTOGRAPHIC CHRONOLOGY

Experimental Aircraft Engine Plant Krasnaya Glinka No 2 was first seen on German photography of May 1943. When next observed, 16 years later, on TALENT photography of [redacted] 7 additional buildings had been constructed, 3 of which were engine-test facilities (items 13, 14, and 16, Figure 2); a fourth engine test building (item 11) was under construction. Between [redacted] the latest KEYHOLE photography of the plant), 10 more buildings were observed. The most significant structures built were a machine shop/subassembly building (item 15) in the eastern portion of the plant and a large assembly building (item 1) immediately north of the plant. The latter building, which is not yet operational, is approximately 600 feet in length and has on its west side a large high-bay section approximately 70 feet high. The southwest corner of the plant shows recent expansion. This includes the construction of 4 buildings, the largest of which is 150 by 40 feet, and a realignment of the plant wall. The [redacted] coverage reveals 3 new areas of construction activity. The most significant area, which contains a building under construction, is at the southeast edge of the plant, outside the existing wall. Construction materials observed indicate that this building may be another test facility.

25X1

25X1

25X1

25X1

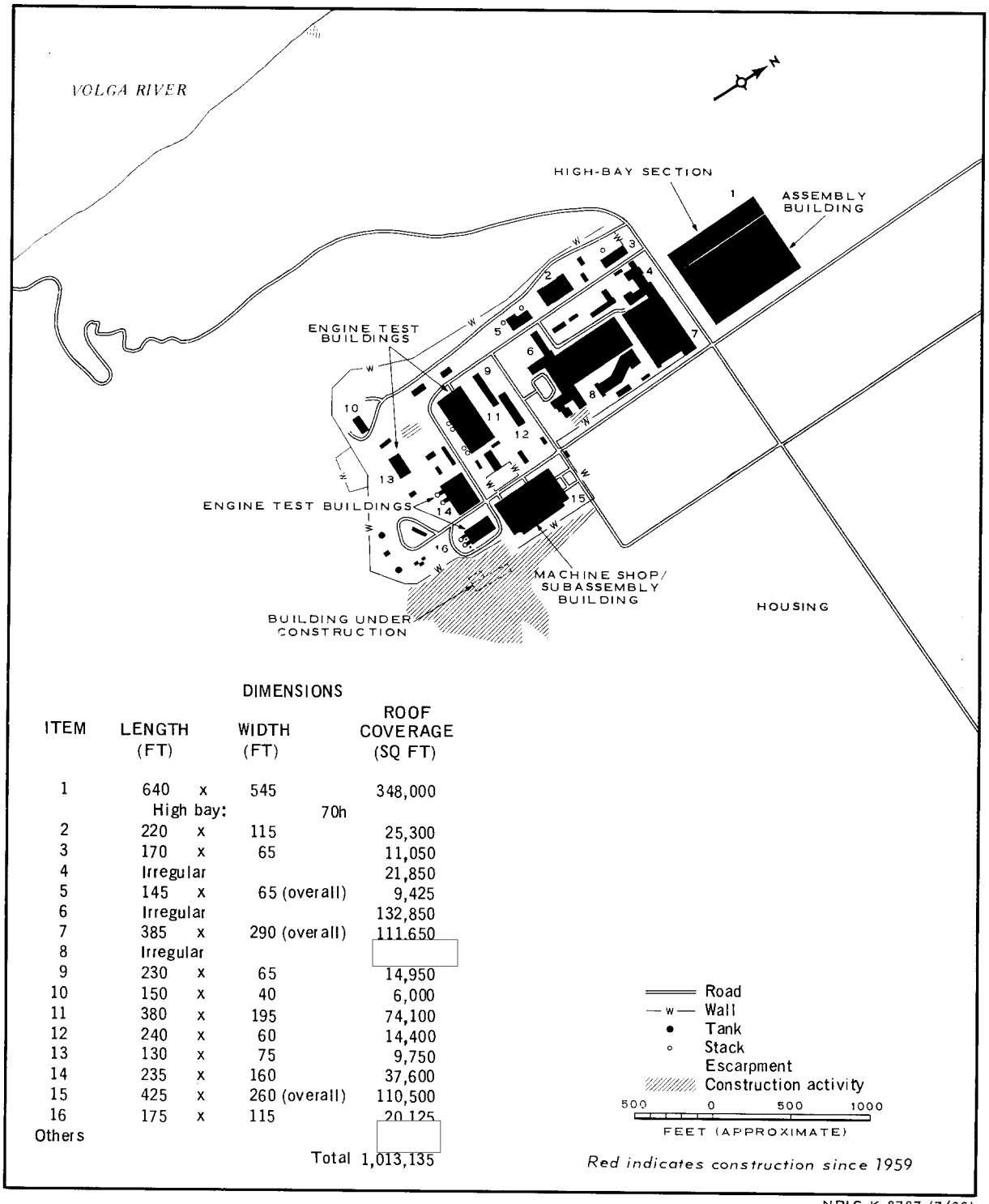
25X1

[redacted]

NPIC K-8786 (7/66)

FIGURE 1. USSR: EXPERIMENTAL AIRCRAFT ENGINE PLANT KRASNAYA GLINKA NO 2 NEAR KUYBYSHEV

25X1



ITEM	DIMENSIONS LENGTH (FT)		WIDTH (FT)	ROOF COVERAGE (SQ FT)
1	640	x	545	348,000
	High bay:		70h	
2	220	x	115	25,300
3	170	x	65	11,050
4	Irregular			21,850
5	145	x	65 (overall)	9,425
6	Irregular			132,850
7	385	x	290 (overall)	111,650
8	Irregular			[redacted]
9	230	x	65	14,950
10	150	x	40	6,000
11	380	x	195	74,100
12	240	x	60	14,400
13	130	x	75	9,750
14	235	x	160	37,600
15	425	x	260 (overall)	110,500
16	175	x	115	20,125
Others				[redacted]
			Total	1,013,135

25X1

25X1

NPIC K-8787 (7/66)

FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF EXPERIMENTAL AIRCRAFT ENGINE PLANT KRASNAYA GLINKA NO 2 NEAR KUYBYSHEV.

MOSKVA

	Section
City of Moskva	0
Missile Development Plant No 88, Kaliningrad	1
55-55N 37-48E;	25X1
Special Design Bureau (OKB)/Plant No 456, Khimki	2
55-54N 37-48E;	25X1
Zagorsk Rocket Engine Test Facility, Krasnozavodsk	3
56-27N 38-12E;	25X1
Guided Missile R&D Plant No 301, Khimki	4
55-54N 37-26E;	25X1
Guided Missile Plant No 82	5
55-50N 37-27E;	25X1

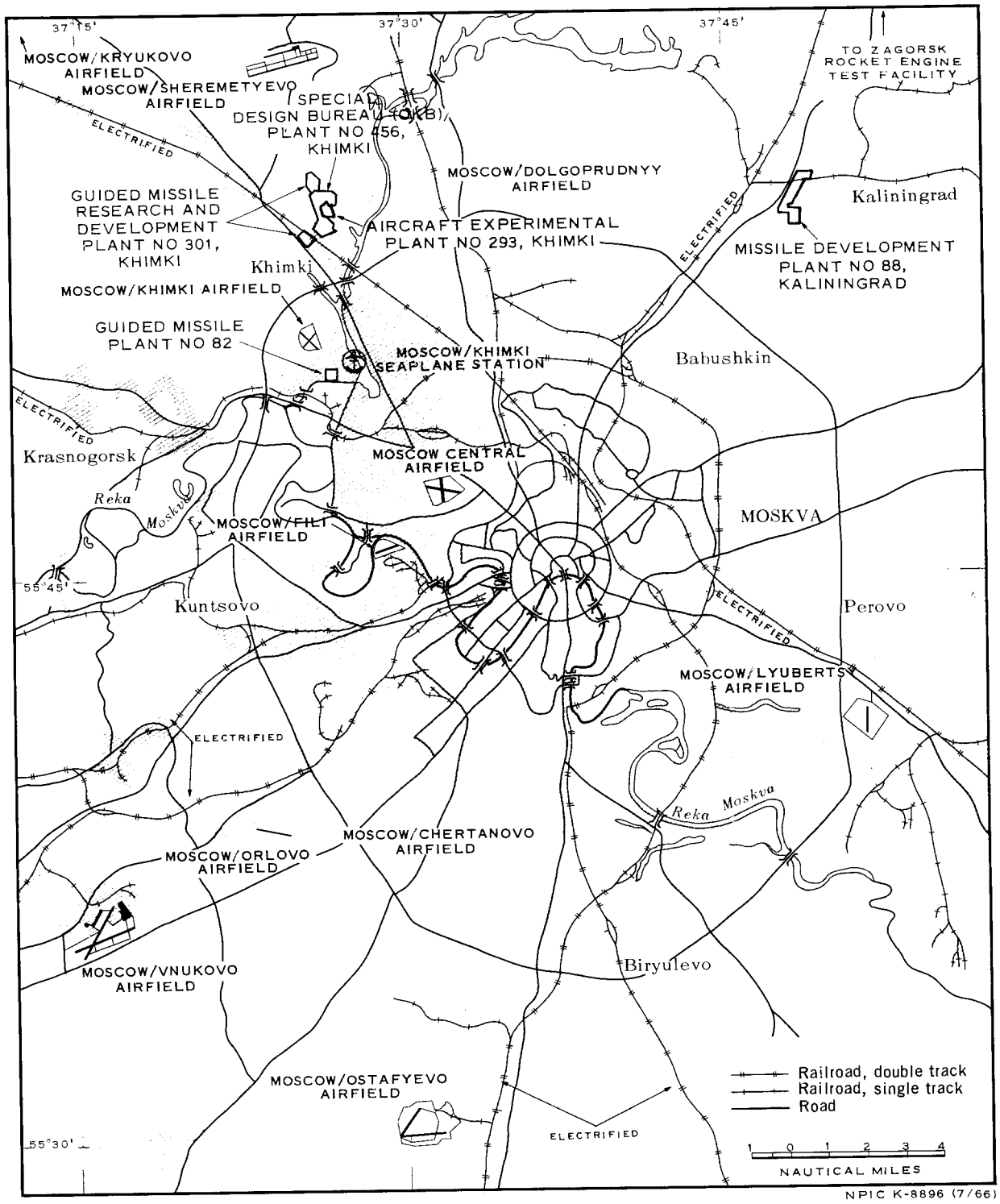


FIGURE 1. USSR: CITY OF MOSKVA.

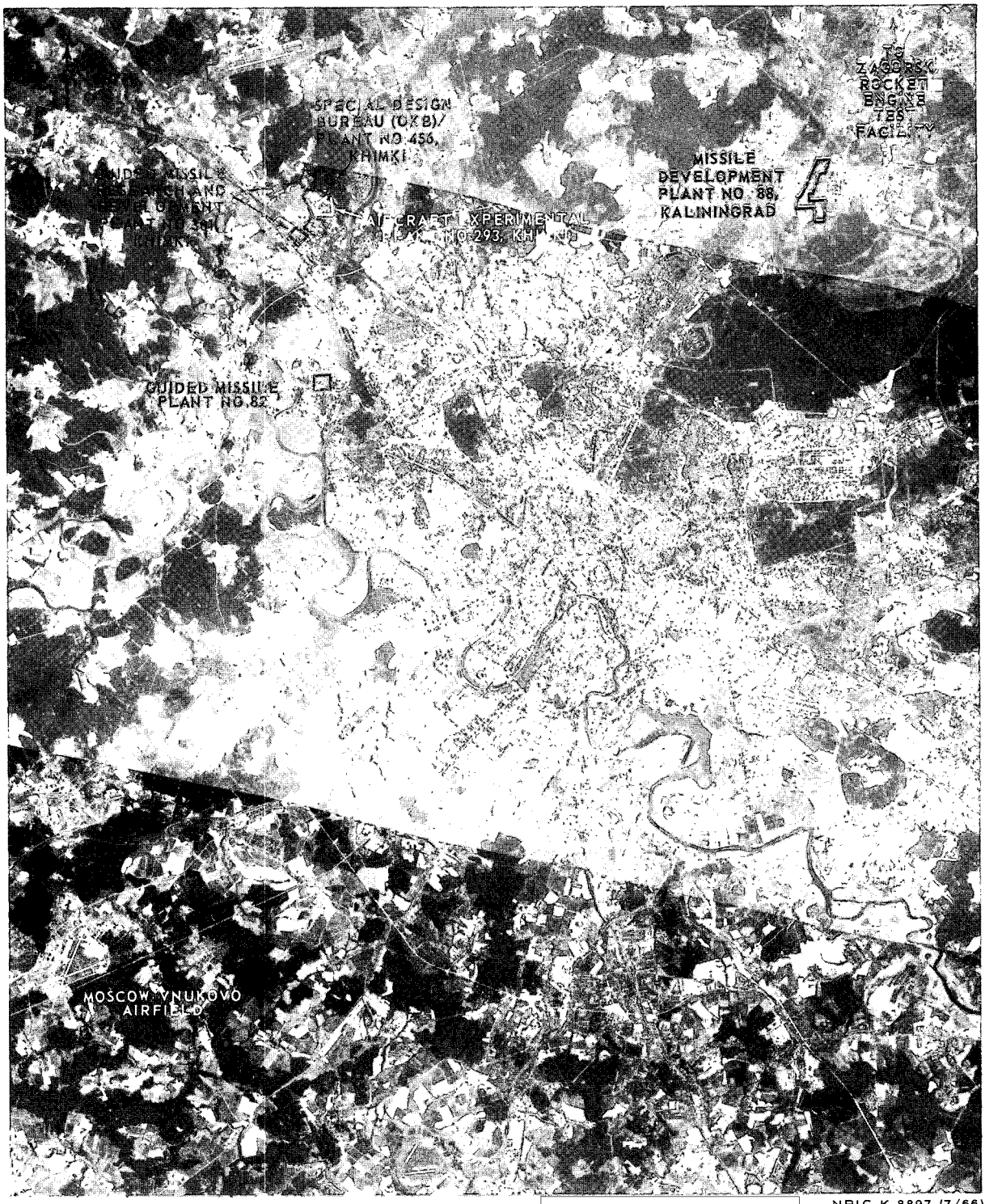


FIGURE 2. USSR: CITY OF MOSKVA [redacted] 25X1

Moskva 0-3

25X1

MOSKVA: GUIDED MISSILE PLANT NO 82

PHOTOGRAPHIC CHRONOLOGY

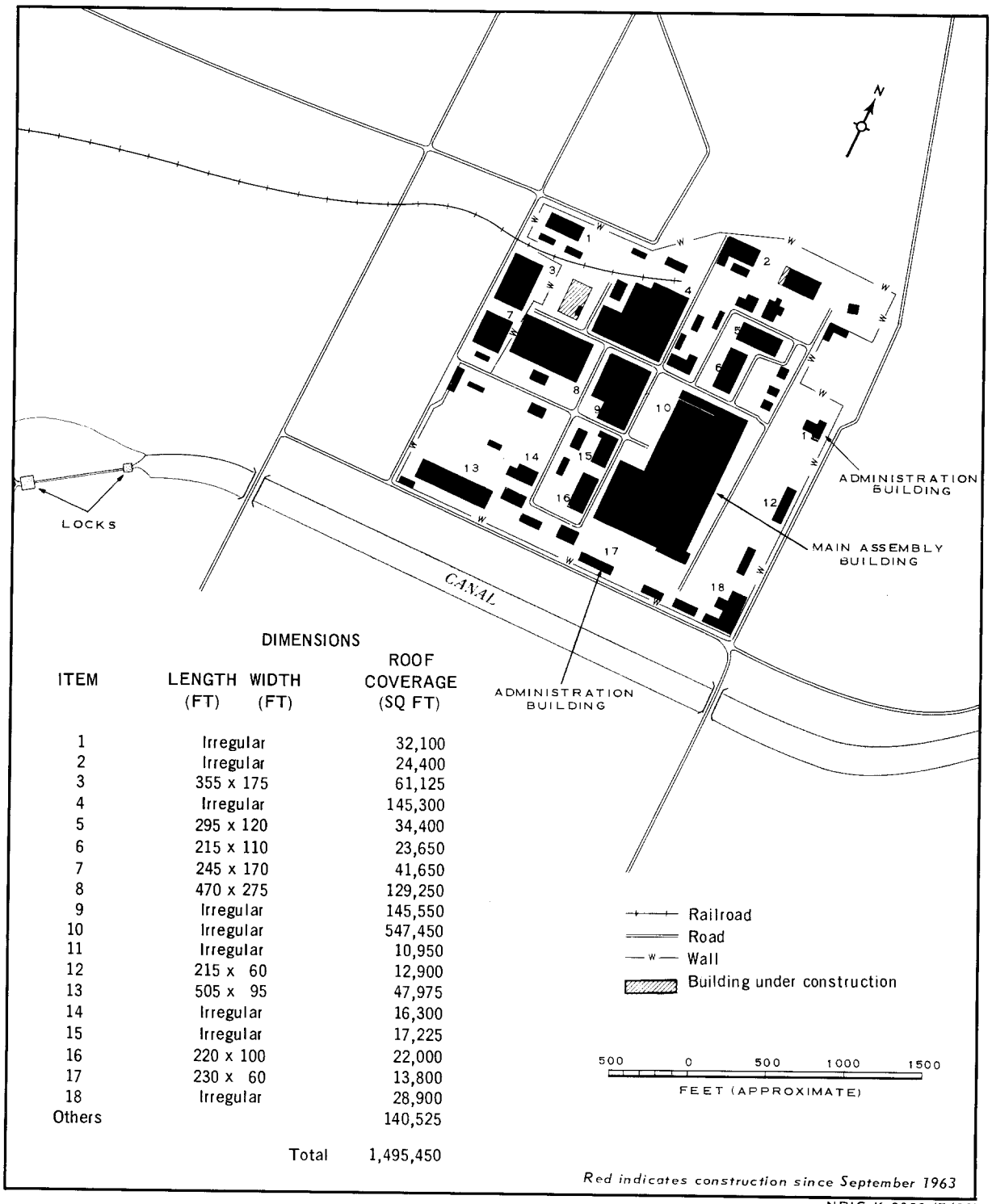
German photography of August 1942 provided basic information on the layout of Guided Missile Plant No 82 (formerly known as Moskva Aircraft Plant Tushino 82 and Moscow Aircraft Engine Plant No 82, Tushino). After that coverage no usable photography of the area was obtained until [redacted] KEYHOLE photography of that date [redacted] [redacted] revealed that during the time gap considerable expansion and modification had occurred at the plant. Expansion consisted of the addition of 3 large assembly/fabrication buildings (Figure 2, items 3, 4, and 8), 5 workshops, and 12 small storage/support buildings. A previously existing, large, main assembly building (item 10) and 1 other building (item 9) had been enlarged and modified, and apartment houses were being erected on the site of a taxiway which previously had connected the plant with Moscow/Khimki Airfield. By [redacted] the large main assembly building was undergoing expansion for the second time. [redacted] coverage showed also that a multistory administration building (item 17), which had been under construction since [redacted] [redacted], was complete. By [redacted] the expansion of the main assembly building was complete, and 2 large workshops and another administration building (item 11) were observed under construction. The most recent coverage, in [redacted] [redacted] shows that 1 workshop and this administration building are externally complete; the other workshop is still in an early stage of construction.

EVALUATION

Guided Missile Plant No 82 is considered to be a possible producer of surface-to-air missiles (SAMs) or SAM components because of its reported connection with the V-301 (SA-1 SAM) production program in the early 1950's. There is no evidence, however, which indicates that the plant is or has been involved in the production of any other missile or missile system.

FIGURE 1. USSR: GUIDED MISSILE PLANT NO 82 AT MOSKVA

25X1



ITEM	DIMENSIONS LENGTH (FT)	WIDTH (FT)	ROOF COVERAGE (SQ FT)
1	Irregular		32,100
2	Irregular		24,400
3	355	x 175	61,125
4	Irregular		145,300
5	295	x 120	34,400
6	215	x 110	23,650
7	245	x 170	41,650
8	470	x 275	129,250
9	Irregular		145,550
10	Irregular		547,450
11	Irregular		10,950
12	215	x 60	12,900
13	505	x 95	47,975
14	Irregular		16,300
15	Irregular		17,225
16	220	x 100	22,000
17	230	x 60	13,800
18	Irregular		28,900
Others			140,525
		Total	1,495,450

NPIC K-8899 (7/66)

FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF GUIDED MISSILE PLANT NO 82 AT MOSKVA.

OMSK: ROCKET ENGINE TEST FACILITY

PHOTOGRAPHIC CHRONOLOGY

The Omsk Liquid Propellant Rocket Engine Test Facility was first seen on KEYHOLE photography of [redacted] 25X1 At that time the facility was under construction, and excavation for a test stand flame deflector was under way. The vertical test stand appeared complete by mid-1963, when a possible blast mark was observed. Construction activity at the site of a suspect second vertical test stand was visible in [redacted] 25X1 Buildings under construction were discernible in [redacted] 25X1 respectively). Photography of [redacted] 25X1 showed that construction was continuing at this site. No test tower was observable, but the construction activity strongly suggested that a second stand was under way. The [redacted] 25X1 coverage also revealed a blast mark in the snow at Test Stand 1. During the remainder of 1964 the test facility was covered by 1 KH-7 mission [redacted] 25X1 and 5 KH-4 missions [redacted] 25X1 Construction on the second vertical test stand continued during this period, and on the [redacted] photography [redacted] a large blast mark opposite Test Stand 1 was observed. 25X1

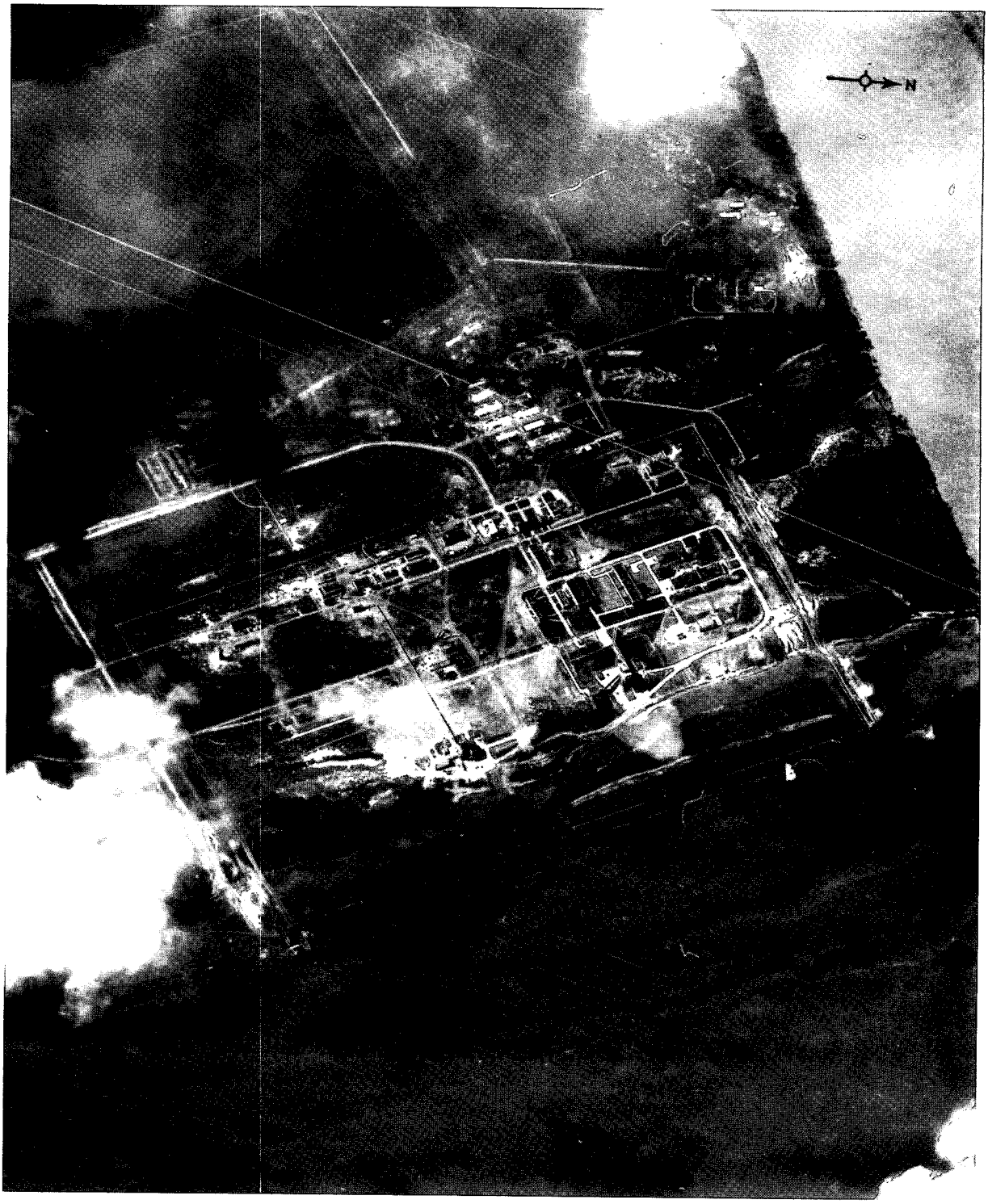
In 1965 the facility was covered by 6 KH-4 missions [redacted] 25X1 and 2 KH-7 missions [redacted] 25X1 respectively). Photography of [redacted] 25X1 revealed blast marks opposite Test Stand 1, and [redacted] 25X1 showed burn marks and discoloration on the side of the ravine opposite the stand. The elevated pipes extending from Stand 1 were observed to be similar to the structure associated with the cold-flow test facility of the Martin Company in Denver. This similarity suggests that the Omsk facility has a cold-flow

or altitude simulation test capability in addition to its hot firing capability. During 1965 several buildings were razed, and the wire fence system previously present was replaced by a wall. There were indications that a wire fence might be present outside the wall system.

In 1966 the test facility has been covered 4 times, by 2 KH-4 missions [redacted] respectively) and 2 KH-7 missions [redacted] respectively). Mission [redacted] provided the best photography of the 2 test stands yet. Test Stand 2, which appears on the June coverage to be nearly complete, may be a 2-position stand. Both [redacted] show that the pair of elevated pipes extending southwest from Stand 1 terminate in mid-air and that they probably have flared ends. 25X1 25X1 25X1 25X1

EVALUATION

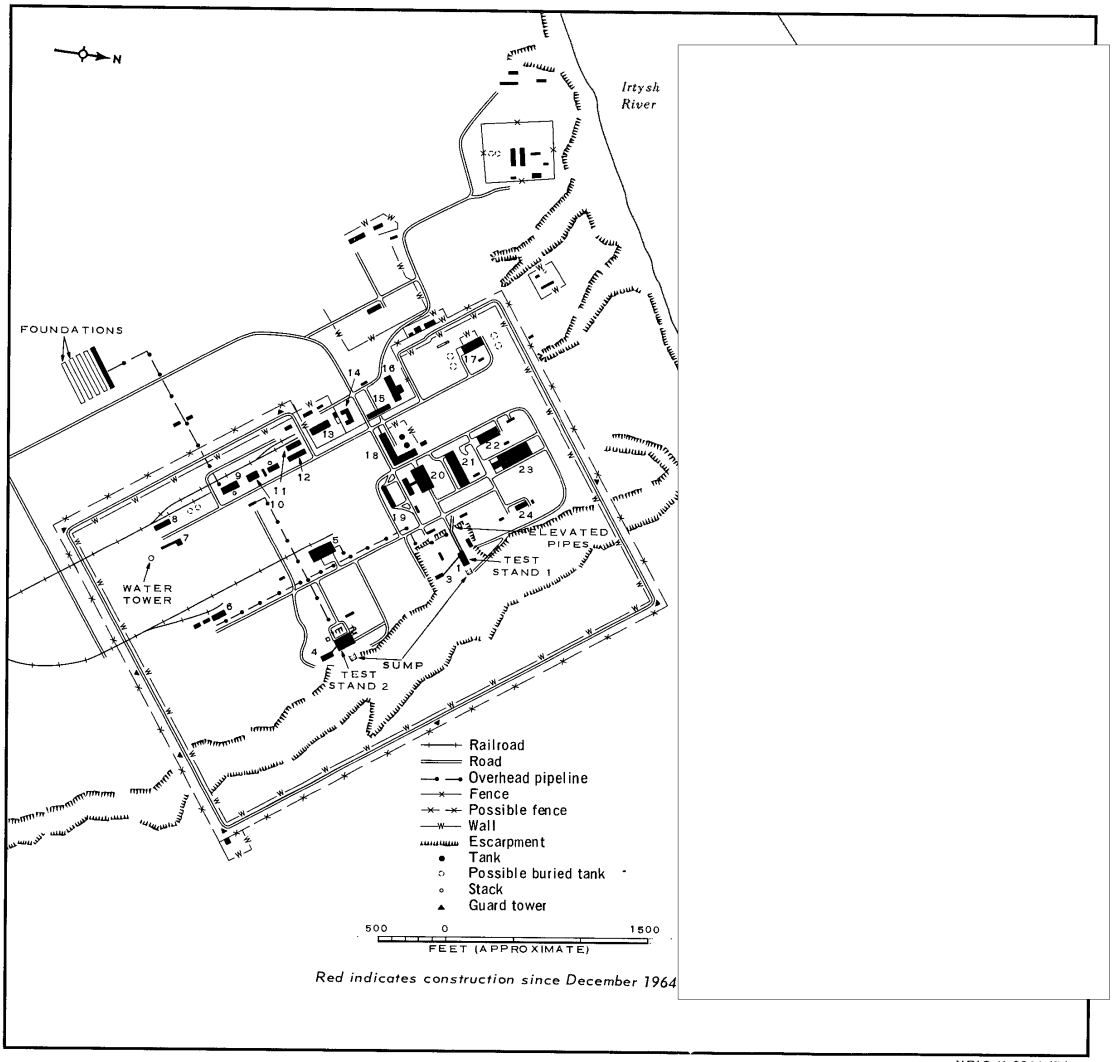
[redacted] 25X1



NPIC K-9043 (7/66)

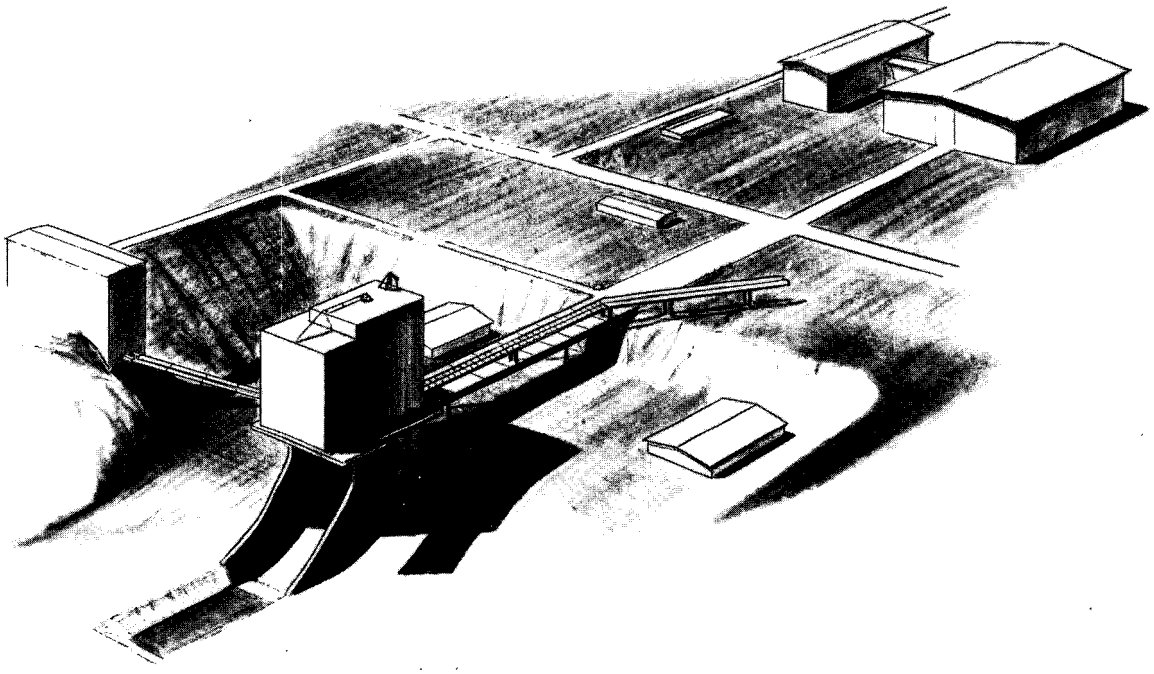
FIGURE 1. USSR: ROCKET ENGINE TEST FACILITY NEAR OMSK (

25X1



NPIC K-9044 (7/66)

FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF ROCKET ENGINE TEST FACILITY NEAR OMSK.



NPIC K-9045 (7/66)

FIGURE 3. PERSPECTIVE VIEW OF TEST STAND 1 AT ROCKET ENGINE TEST FACILITY NEAR OMSK.

TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J

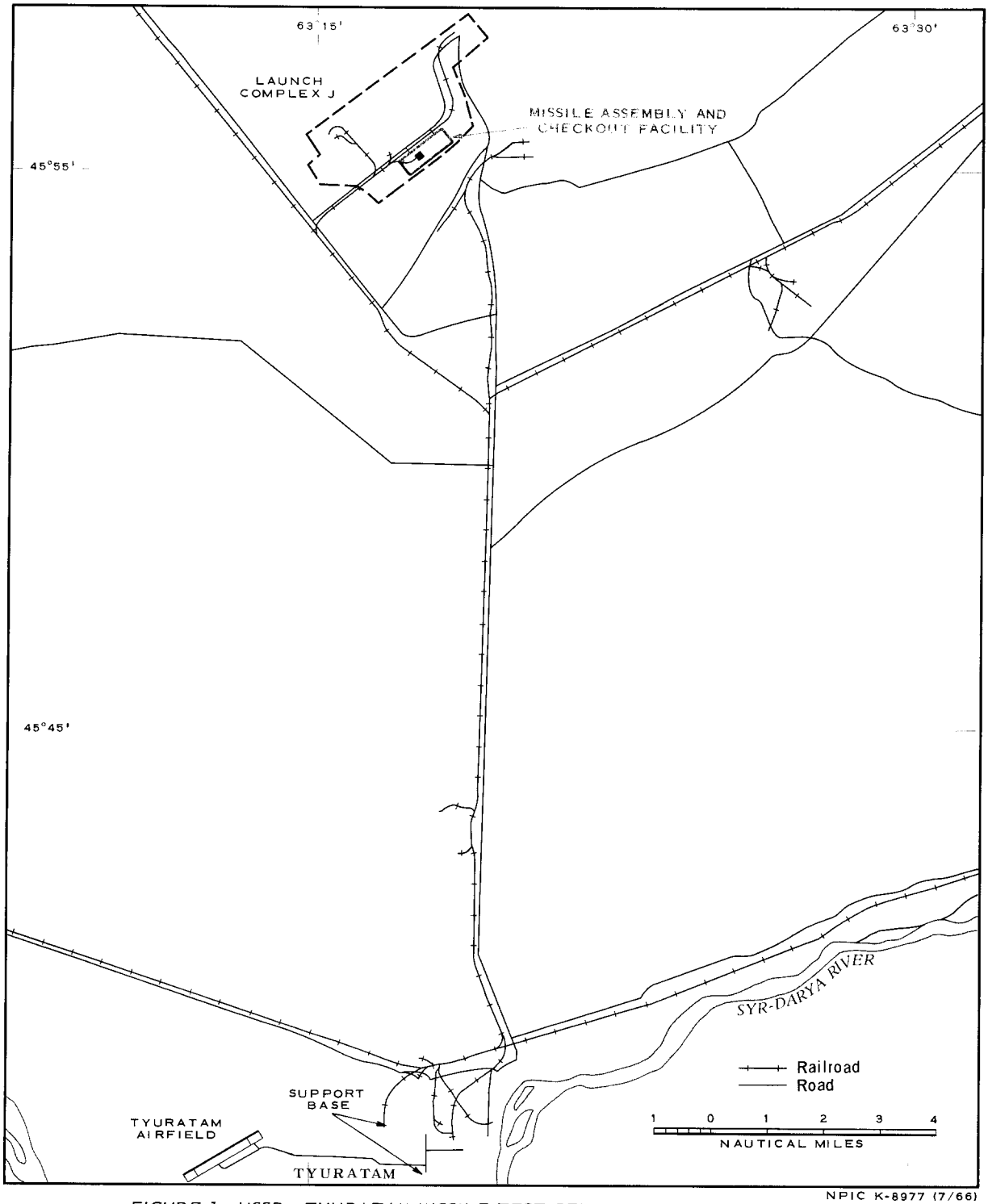


FIGURE 1. USSR: TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J.

Tyuratam Missile Test Center, Launch Complex J 0-2

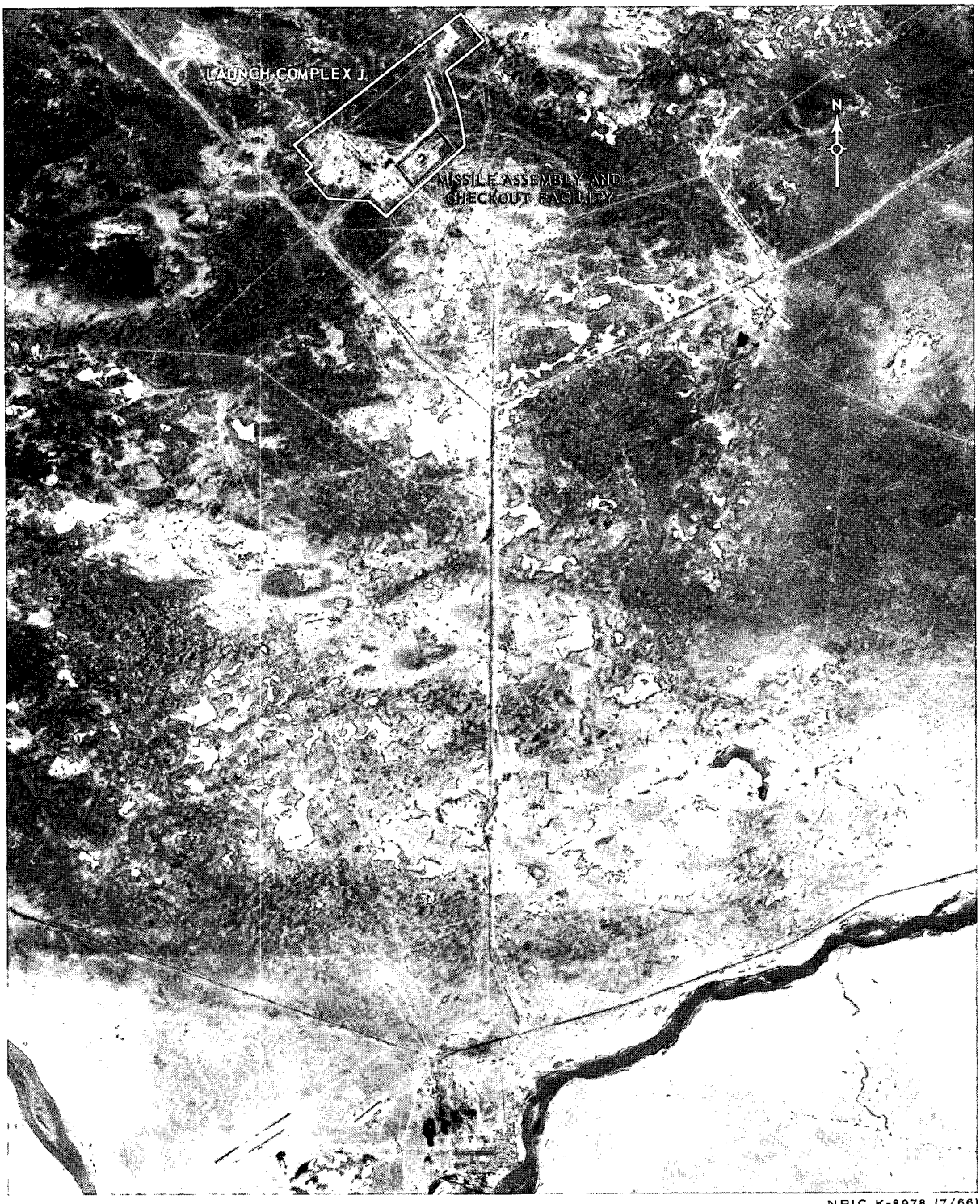


FIGURE 2. USSR: TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J [redacted] 25X1
1965).

TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J: MISSILE ASSEMBLY AND CHECKOUT FACILITY

PHOTOGRAPHIC CHRONOLOGY

A massive missile assembly and checkout building (item 4, Figure 2) is situated on the east side of the rail spur and access road serving Launch Complex J of the Tyuratam Missile Test Center.

Launch Complex J was first observed on KEYHOLE photography of [redacted] when it was under construction and consisted of approximately 15 support buildings served by road and rail. Since that coverage, construction has progressed steadily. The complex, which is still under construction, now includes a massive launch area, which upon completion will consist of 2 launch pads and contiguous ancillary facilities; a permanent support area; and the assembly and checkout building. 25X1

Foundations for the building were already apparent when construction activity on it was first observed in [redacted] Approximately 17 months later, in [redacted] it could be considered complete. The building measures 780 by 625 feet and comprises a volume of approximately 79.8 million cubic feet. It consists of 2 distinct parts - a low-bay section measuring 780 by 230 feet and 110 feet high and a larger, high-bay section measuring 780 by 395 feet and 195 feet high. Two large openings on the east end of the high-bay section, each 120 feet high and 95 feet wide, indicate the size of the vehicles that could be handled in the building. A gantry track, which is under construction, will extend from the building to the launch area, 2.2 nautical miles north. The visible foundations for the track are spaced approximately [redacted] apart. 25X1 25X1 25X1

The best-quality photography of the missile assembly and checkout building to date is [redacted] 25X1

EVALUATION

25X1

NPIC K-8979 (7/66)

FIGURE 1. USSR: MISSILE ASSEMBLY AND CHECKOUT FACILITY AT TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J

25X1

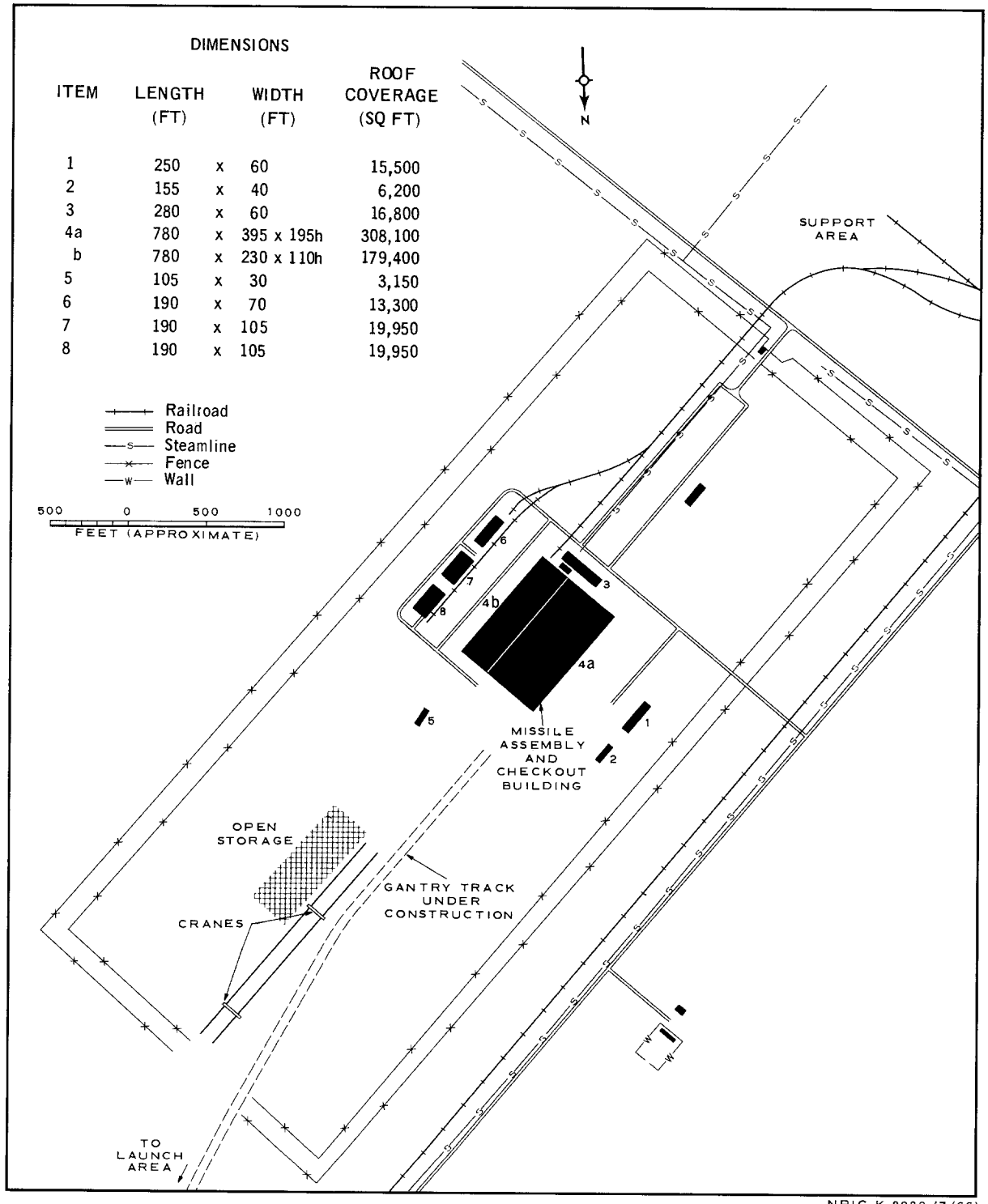
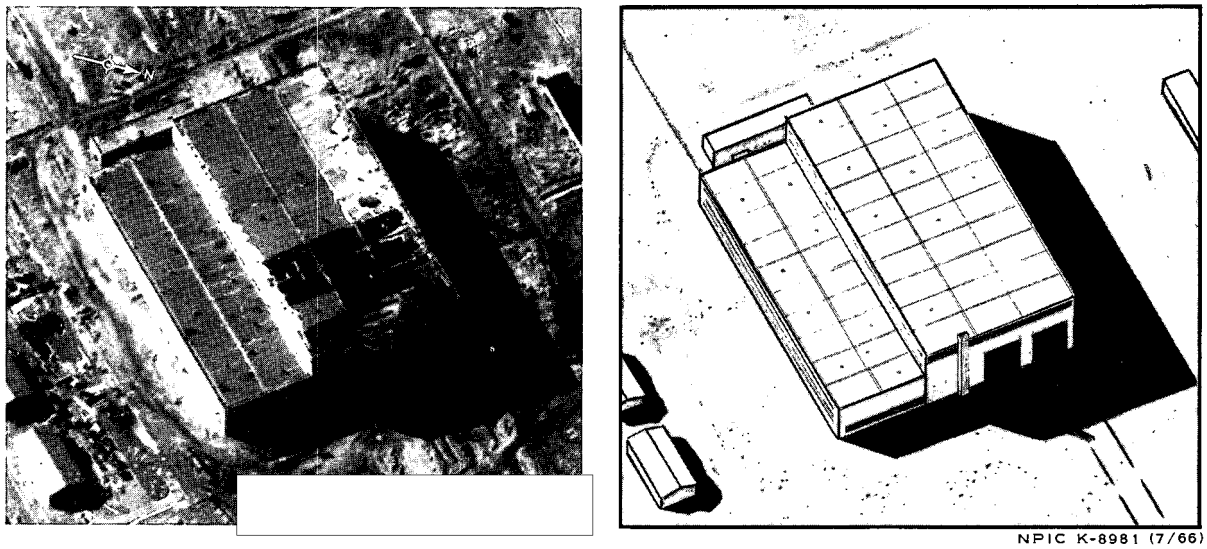


FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF MISSILE ASSEMBLY AND CHECKOUT FACILITY AT TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J.

Tyuratam Missile Test Center, Launch Complex J 1-3



NPIC K-8981 (7/66)

25X1

FIGURE 3. USSR: PERSPECTIVE VIEWS OF MISSILE ASSEMBLY AND CHECKOUT BUILDING (item 4, Figure 2), MISSILE ASSEMBLY AND CHECKOUT FACILITY AT TYURATAM MISSILE TEST CENTER, LAUNCH COMPLEX J.

UFA: STATIC TEST FACILITY

PHOTOGRAPHIC CHRONOLOGY

Initial photographic coverage of the Static Test Facility occurred in [redacted]. Better-quality photography in [redacted] revealed that since the first coverage some minor changes had been made in the road and rail networks serving the area and that several small buildings had been constructed. Fourteen additional missions of varying quality have covered the facility. The best coverage was obtained in [redacted] and showed further expansion and permitted at least tentative identification of several structures. These consist of a horizontal test building (item 1, Figure 2), 2 possible checkout buildings or test buildings of another type (items 9 and 10), an administration building (item 5), a possible power and/or steamplant (item 7) with a high stack (no pipe- or steamlines could be identified at the plant), a guardhouse and possible barracks (item 4), 7 possible support buildings - 2 large (items 6 and 8) and 5 small, and 2 buildings or possible covered tanks (previously described as tanks) (item 2). The [redacted] coverage revealed that the horizontal test building has 4 cells, all of which have been used for testing. The building is connected by a possible steamline to items 8, 9, and 10 and by a pipe- and/or steamline to item 2; also, it is probably connected by a possible underground pipeline to an unidentified building (item 3). The test facility is secured by a wall or board fence. The support area to the southeast contains 1 administration and barracks building, 2 barracks buildings, 4 support buildings, and 1 tank.

25X1 25X1 25X1 25X1

EVALUATION

[redacted] 25X1

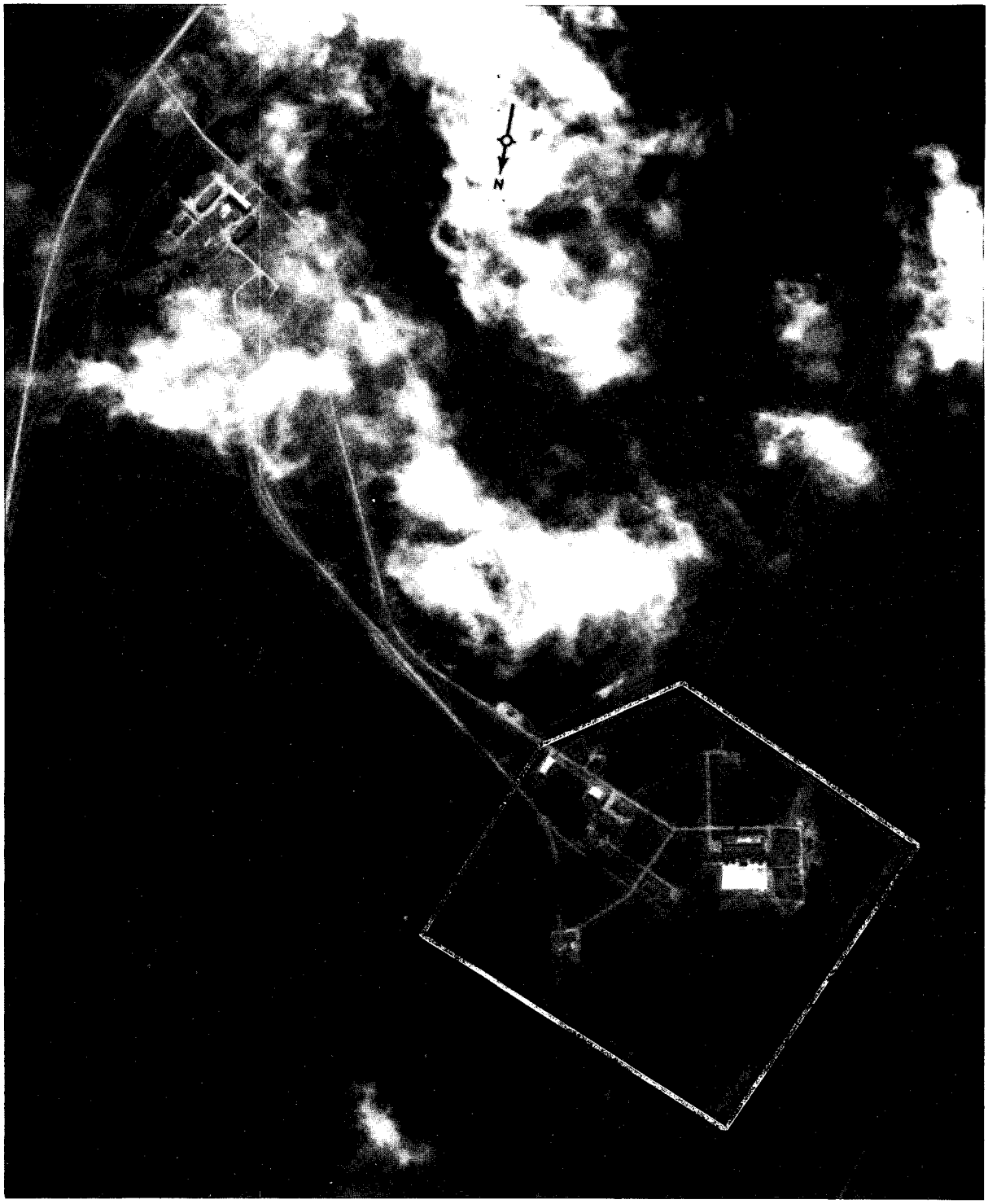
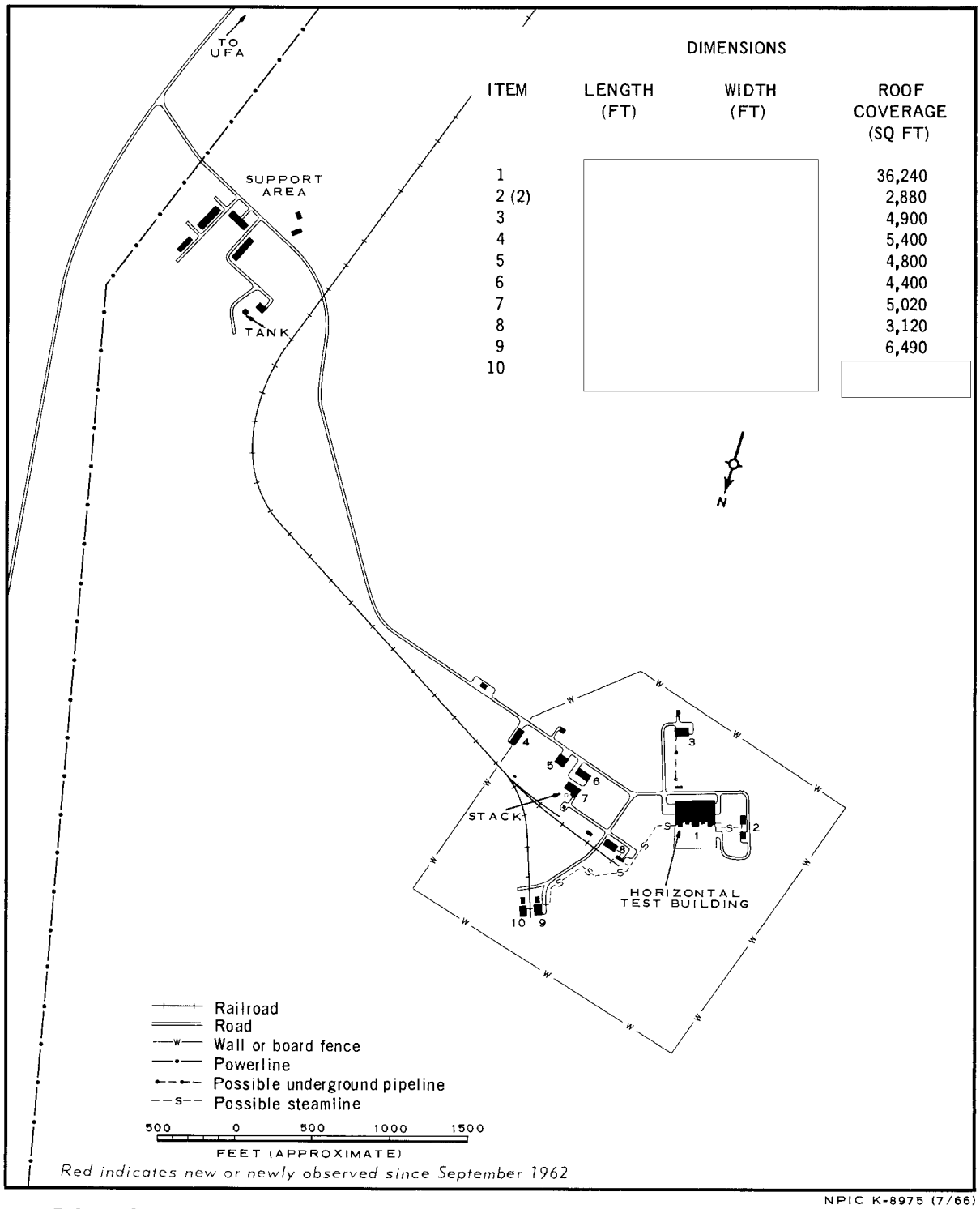


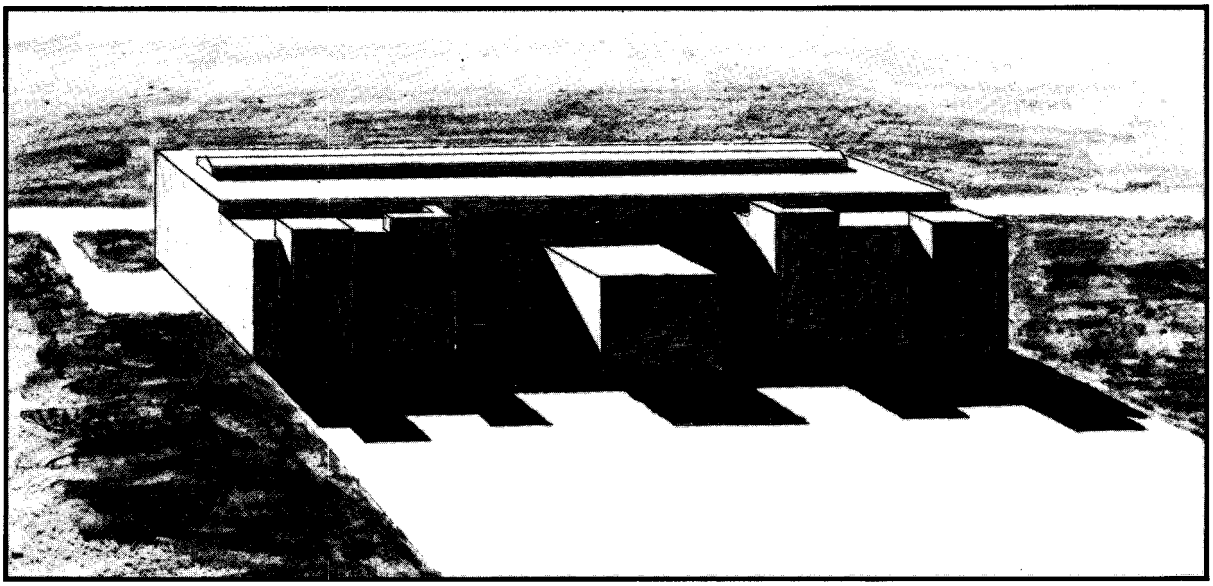
FIGURE 1. USSR: STATIC TEST FACILITY NEAR UFA [redacted] NPIC K-8974 (7/66) 25X1



25X1

25X1

FIGURE 2. USSR: LAYOUT AND ROOF COVERAGE OF STATIC TEST FACILITY NEAR UFA.



NPIC K-8976 (7/66)

FIGURE 3. USSR: PERSPECTIVE VIEW OF HORIZONTAL TEST BUILDING (item 1, Figure 2) AT STATIC TEST FACILITY NEAR UFA.